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Evaluating the Effectiveness of Sharing E-Journals via Consortium

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NISO Metasearch Initiative
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NISO Action Plan

Following the two workshops, **Jenny Walker** (**Ex Libris, Inc.**) and **Andrew Pace** (**North Carolina State University**) were asked to jointly lead the **Metasearch Initiative** with the goal of enabling:

metasearch service providers to offer more effective and responsive services,

content providers to deliver enhanced content and protect their intellectual property, and

libraries to deliver services that distinguish their offerings from **Google** and other free Web services.

Three task groups were formed to pursue different aspects of the metasearch challenges.

Access Management

Chaired by **Michael Teets** (**OCLC, Inc.**), the Access Management task group is charged with gathering requirements for Metasearch authentication and access needs, inventorying existing processes now in place, and developing a series of formal use cases describing the needs. The problem they want to solve is how best to certify a user from the organization authenticator to the data provider, by way of the metasearch provider, in such a way that the authentication can be trusted end-to-end and ultimately deliver the services to which the user is entitled.

Collection and Service Descriptions

Chaired by **Juha Hakala** (**Helsinki University Library**), the Collection and Service Descriptions task group is developing a metadata element set for collection-level description, and methods for describing informational services that are used to provide access to collections. Once the two metadata elements sets (semantics) and appropriate encodings (syntax) for them have been specified, the Task Group will concentrate on creating a draft standard, which will serve as a basis for future rules for describing collections and services.

Search and Retrieval

Co-chaired by **Katherine Kott** (**Digital Library Federation**) and **Sara Randall** (**Endeavor Information Systems**), the Search and Retrieval task group is working three areas: current metasearch practices including a standard vocabulary, citation level data elements, and metadata returned about result sets. Their committee is also developing a Metasearch XML Gateway (MXG) as a low-entry-barrier method for service providers to expose content to metasearch engines.

Survey of Content and System Providers

To further scope and understand the problem, the Search and Retrieval Task Group conducted a survey of content providers and library system vendors on the current state of metasearching. Key results of the survey were:

83 percent are aware of current metasearching activity on their database(s).

54 percent do not have a policy regarding metasearching of their offerings.

Of those who do have a policy, 30 percent do not allow metasearching of their database(s).

54 percent believe that allowing metasearching of their offerings is very important to their customers.

Of those who allow metasearching of their offerings, 70 percent think standards and guidelines in metasearching would be very important to their business.

Many different search and retrieval protocols are in use, with many providers supporting more than one access method. HTTP/HTML based (76%); Z39.50 (64%); XML/SOAP (33%); SQL (30%); legacy system and/or Telnet-based access (25%).

The most common format for display search results was as an HTML page (84%), followed by MARC 21 (63%), proprietary XML (53%), Dublin Core (26%), and GRS-1 (21%). Although RSS and WSDL (Web Services Description Language) are not used by most survey respondents today, 20% indicated plans for future support.

Respondents cited several benefits for allowing customers metasearch access: an increased customer base (79%), gaining a competitive edge (58%), and opportunities for partnership (53%).

The main concerns of content providers with metasearch were: loss of control over search results (53%), loss of branding (53%), digital rights management (47%), customer support problems (42%), excessive use of system resources (37%), and the amount of communications required with other suppliers (21%).

The survey results were used by all three Task Groups in further refining their work plans and in developing use cases.

Next Steps

With a mix of librarians, software providers, and content providers, the three task groups have drawn the participation of over 60 individuals from five countries. (See the sidebar for the list of Metasearch Initiative participants and their organizations.) Each group's first set of deliverables and recommendations will be presented at **NISO's** fall workshop in September 2005.

Part 2 of this article, which will appear in a future issue of ***Against the Grain***, will report on the **NISO Metasearch Initiative** task groups' initial set of findings and recommendations. Official documents are posted on the **NISO Metasearch Initiative** Webpage (*http://www.niso.org/committees/MS_initiative.html*). Committee activities can be followed at the task groups' **WIKI** (*http://www.lib.ncsu.edu/niso-mi/*).

Evaluating the Effectiveness of Sharing E-Journals via a Consortium

by **Tim Bucknall** (Assistant Director - Jackson Library, Head, Information Technologies and Electronic Resources, University of North Carolina at Greensboro) <bucknall@uncg.edu>

The **Carolina Consortium** is an inter-state "virtual" consortium with no central funding, staff, or committee structure. The group works as a buyer's club, with each of the nearly forty participating institutions making its own decision whether or not to join in each of the available deals. This article examines data from the first few months of the consortium's existence to see if its greatly expanded journal content is proving to be both useful to patrons and affordable to libraries.

The **Carolina Consortium** is a partnership between academic libraries in North Carolina and South Carolina that builds on the strengths of local state-wide consortiums, but adds significant additional value. The primary state-wide consortium in North Carolina is **NC LIVE**, which offers a set of core databases to all 178 community colleges, public libraries, **University of North Carolina System** campuses, and independent colleges and universities. Any electronic resource available to any one group of libraries through that organization has to be available to and paid for by all four constituent groups. Thus, **NC LIVE's** structure creates a level playing field for the state's libraries. However it also means that the most academically-oriented resources are unlikely candidates for subscription because they are of little interest to the public libraries and to many community colleges. In South Carolina, **PASCAL** is the state-wide consortium for academic resources. Unlike **NC LIVE**, it can function as a buyer's club, with the state's libraries opting into or out of each deal.

Despite the enormous successes of both **PASCAL** and **NC LIVE** within their respective states, there were still some significant ar-

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eas of potential improved cooperation for the sharing of scholarly electronic resources. North Carolina academic libraries shared the primary need for a consortium that pursued high-end academic resources beyond the scope of **NC LIVE**. For South Carolina libraries, joining forces with their neighbors to the north created a larger pool of buyers that brought more favorable pricing. Thus, the **Carolina Consortium** came into being in 2004 to supplement and build upon the wonderful resources already provided by two established, centrally funded, and well organized state-wide consortiums in the Carolinas.

Lacking any central funding or organizational structure, the **Carolina Consortium's** initial challenge was to gather enough schools to attain viability. After all, a group must have some bulk to be eligible for bulk discounts. After a few weeks of phone calls and emails in the summer of 2004, more than a dozen schools met at the **University of North Carolina at Greensboro** to consider offers by **Wiley**, **Springer**, and **Blackwell**. After the vendors presented and discussed their offers, they were asked to leave the room. The consortium then came to a consensus decision to pursue all three deals if the vendors would agree to address specified concerns. The consortium also established a timeline for final decision-making and the signing of contracts.

With only a few weeks before **EBSCO's** serials deadline, the group had to move very quickly to negotiate the desired terms, to establish the wording of the contracts, and to bring in additional libraries to further improve the deals. Amazingly, the consortium exceeded its expectations on all fronts. The vendors agreed to all of the desired terms and actually ended up giving us additional favors (such as early access) that weren't specified in the contracts. The consortium more than doubled in size in the space of those few weeks, ending up with thirty-eight institutions joining in one or more of the three academic journal offers.

Thirty-five joined the **Springer** deal, which allows the consortium-wide sharing of any title subscribed to by any participating institution. With the additional titles that **Springer** granted the participants through a generous consortium-wide title duplication allowance, the group ended up with the entire stable of **Springer** journals — including the **Kluwer** and **Brill** imprints that the company acquired while the consortium's negotiations were ongoing. **Wiley** offered a similar deal for the sharing of subscribed titles, although they offered somewhat more limited access to unsubscribed titles. The chief cost component in both deals was that participating schools had to promise to maintain their extant subscriptions for the duration of the three year contracts. **Wiley** became the **Carolina Consortium's** most popular offer, with thirty-six schools participating.

Blackwell's deal had a different structure. By paying an upcharge based on FTE, the ten schools who joined that deal gained access to all **Blackwell** titles regardless of which subscriptions existed within the group. Although this wasn't a title sharing deal, each institution nonetheless had to promise to maintain their current subscriptions.

In aggregate, the thirty-eight **Carolina Consortium** schools were able to gain thousands of high quality academic journals with a market value of over seventy million dollars while paying less than three million. Most of the money actually paid to the vendors was money that would likely have been paid to them anyway to continue established subscriptions. The average increase in expenditures to these three publishers rose by only a few percentage points at each school, while the increase in the numbers of accessible titles ranged from a low of about 300% to a high of over 40,000% depending on how many titles individual subscriptions schools had prior to joining the consortium.

As the founder and convener of the **Carolina Consortium**, I was very proud of the group's enormous cost-avoidance and the huge expansion of the number of academic journals available to well over 150,000 FTE students and faculty in two states. But I also had to wonder exactly how effective the consortium really was. Of course it's nice to offer lots of titles to lots of researchers, but it is a pointless exercise if those titles are never actually used. It is great to avoid lots of cost, but that is not so wonderful if alternative methods exist that could save even more money. By examining a variety of data sources, I hoped to determine whether the **Carolina Consortium** titles were actually used and whether or not the consortium provided the most cost-effective vehicle for immediate online journal access.

Consortium titles vs. Subscribed titles

One of the most intriguing questions was whether or not a careful selection of titles for institutional subscription can make participation in a consortium deal irrelevant. In other words, if a library can meet nearly all faculty and student research needs with a relatively few extremely well chosen subscriptions from a given publisher, then perhaps there is little reason to join a group just to obtain access to the remainder of that publisher's title set.

In comparing the usage levels of our subscribed vs. unsubscribed titles, I chose to use the **Wiley** usage statistics of the **University of North Carolina at Greensboro (UNCG)** because among the three consortium deals, **Wiley** had the most manageable number of titles. Although I have only four months of **UNCG's** usage data via the consortium, some interesting trends are already starting to emerge.

Prior to **UNCG's** participation in the **Carolina Consortium**, the University had thirty-nine **Wiley** subscriptions. The average length of time that **UNCG** had subscribed to these titles was thirty-one years, with two titles going back nearly a hundred. New subscriptions are established only with significant input from both faculty and the librarian with expertise in that subject area. **UNCG** has been through multiple serials cancellation projects and each title is reviewed every third year. Given the long term investment in these titles, the cooperative faculty/library selection process, and multiple reviews of each title, there should be a fairly close correspondence between **UNCG's** subscriptions and actual usage via the consortium.

UNCG's usage data shows that, when given the ability to consult full text articles from any **Wiley** journal via the consortium, the ten most heavily used by students and faculty included six **UNCG** subscriptions. Of the top fifty titles most used **Wiley** journals, twenty-two were subscribed. At the other end of the spectrum, six of **UNCG's** subscribed titles received no use at all. Overall, 52% of all of **UNCG's Wiley** usage was of unsubscribed titles.

The data available so far seems to indicate that **UNCG's** time-consuming and extensive process of initiating and renewing subscriptions over the years has produced good, but not great, results. Most of the heavily used titles are subscribed, but many are not, while some subscribed titles languish unused. Even with a very thorough selection of subscriptions, it is probably extremely difficult to identify and subscribe to only those titles that will be most heavily used at a given institution. It would certainly be interesting to revisit this analysis after a longer period of usage data is available, and see if it confirms the early trends.

Distribution of Use

Even if an institution is successful in identifying its heavily used titles, it might well be cost prohibitive to subscribe to each of them individually, depending on how widely distributed the usage is across the entire journal set. If almost all the usage is in a relatively few titles, then direct subscriptions are a viable access option. But if there is a wide distribution of usage, then a broader access mechanism such as gaining the entire journal set via a consortium becomes more attractive.

Four months of **UNCG's** usage data for the 799 **Blackwell** titles reveals a fairly broad usage pattern for the 3788 full text accesses. During this period, half the titles were used, while half were not. Of those that received usage, the average number of full text accesses was 9.5, although the median was three. When this four month data is extrapolated over the course of a year it appears that about 210 titles or over 25% of the total set, will receive at least ten uses and over 80% of the journals will receive at least some use. Given that faculty and student interest is split among so many different titles, it would be very difficult for **UNCG** to afford the needed direct subscriptions as an alternative to their consortium access.

Cost Effectiveness

The **Wiley** and **Blackwell** data indicates that with the direct subscription model it is difficult to identify heavily used titles and perhaps just as difficult to afford the titles an institution needs. But, of course, there are alternative article access models to direct subscriptions and consortium participation.

Interlibrary loan is the traditional approach to providing articles not held in the immediate collection, but ILL is not a real-time direct-to-desktop service. And given the large number of uses across a wide variety of unsubscribed titles at **UNCG**, it would be exorbitantly ex-

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pensive. Extrapolating the **UNCG** usage data over the course of a year, we see that there would be around 16,000 uses of non-subscribed articles across the three **Carolina Consortium** academic journal publisher deals. Processing that volume through ILL instead would require multiple new staff and would be far, far more expensive than participating in the consortium.

Of course, **UNCG** would be highly unlikely to see an additional 16,000 ILL requests should they opt to leave the consortium. Many of the users would no doubt instead give up on a particular article that was no longer immediately available online. Most would probably opt not to submit an ILL request and wait for the article — even though **UNCG's** average turnaround time for articles via ILL is now less than two working days. It is difficult, if not impossible, to apply a cost estimate to these lost opportunities to provide researchers and students with the articles they were seeking.

Perhaps a more realistic alternative is pay-per-view. Like direct subscription and consortium access, it offers real time availability of full text articles online. But here, too, the data shows consortium access to be significantly cheaper. For example, in 2004 **UNCG** offered pay-per-view access to all unsubscribed **Kluwer** titles via **EBSCO**. The cost totaled $5251.50. In 2005 all of those same **Kluwer** titles are available to **UNCG** at no cost via the consortium's title-sharing arrangement. If we assume that the local demand for **Kluwer** articles remains the same as last year, this new arrangement should save the University over five thousand dollars.

Consortium Growth

Another potential way to measure the success of an endeavor is to use a business approach and measure growth and retention of customers or, in this case, institutional members. By these measures, the **Carolina Consortium** has been inordinately successful in its second year, expanding by nearly 500% the number of deals that its members have requested, adding more than a dozen new schools, and retaining 100% of last year's participants.

Conclusion

It is easy for a cooperative e-journal sharing group such as the **Carolina Consortium** to tout its huge cost avoidance and its greatly expanded number of accessible journal titles. In aggregate, those numbers are both impressive and important. But for any library consortium, and particularly for a buyer's club group where schools can easily opt in or out of deals, the success of the whole can only be achieved if the group's constituent schools derive significant benefits through the consortium deals. If there is little local demand for the consortium's expanded content, or if there is an alternative, cheaper way to access it, then schools will drop out and the consortium may ultimately fail. In reviewing the early data for one of the **Carolina Consortium** schools, the **University of North Carolina at Greensboro**, I found that students and faculty heavily used a wide variety of consortium titles, and that the consortium was indeed providing the most cost-effective access mechanism for that information. The current **Carolina Consortium** deals seem to be a success for both libraries and their users, and the fact that more libraries are joining the consortium and asking for more deals indicates a high level of satisfaction that will hopefully be translated into even greater benefits for North Carolina and South Carolina libraries in the future.

Analytical Skills for Collection Development and Journal Management

by **Emily Stambaugh** (Social Science Bibliographer and Collection Analyst, University of California Riverside Libraries) <emily.stambaugh@ucr.edu>

Collection Development librarians strive to make informed evidence-based decisions about journal collections. We seek information about cost, usage, terms of acquisition and formats. Often we struggle to keep pace with the rate of change in the publishing industry. Our information systems may not produce appropriate reports for decision-making, coordination between library units may be disjointed, or the journal management life-cycle may not include important functions such as preservation and budget planning.

To effectively manage collections in a digital age, libraries could benefit from a set of analytical skills commonly found in the private-sector. Trained analysts can transform decision-support requirements into systematic practices across the organization. Types of analytic skills that may be useful in the library environment include **Business Systems Analysis**, **Requirements Analysis** and **Information Systems Analysis**. These skills allow an organization to change effectively and at a comparable pace with the publishing and IT industries. Librarians can use analytical skills to transform a collection strategy or any other strategic goal into a regular, sustainable flexible program.

At **Z. Smith Reynolds Library**, **Wake Forest University** the strategy for reviewing serials was transformed from a one-time, ad hoc project to a sustainable, on-going process of evidence-based reviews. The reviews were designed to involve all stakeholders in the serials collections, including faculty, with the supports needed to make informed decisions about formats, cancellations and package renewals. The example demonstrates how a skilled analyst can guide a team of people to think about how their activities support journal collection strategies and to streamline activities for regular, evidence-based evaluation of the collections.

Analytical Skills Defined

There are three general types of analytical skills: **Business Systems Analysis**, **Requirements Analysis** and **Information Systems Analysis**. **Business Systems Analysis** refers to the process of translating strategic goals into practical, repeatable activities with measurable outcomes. One strategic goal for the library might be to develop a culture of regular assessment of serials in all formats with input from faculty and liaisons.

The business analyst's job is to formally identify where the organization stands with respect to that strategic goal, where it needs to go and how it will know it has gone in the right direction. **Business Systems Analysis** is an iterative process that requires certain people skills, comfort with "the unknown," and a strong ability to break down and reformulate components of the big picture (strategic directions, organizational structures, processes and data sets). It is important to note that while this type of analysis may result in adjusted workflows, it goes beyond workflow analysis into strategic planning and assessment.

The staff at **Reynolds Library** started by documenting all of the skills, processes, tasks, products and services currently involved in managing serials across the organization. They interviewed people in each step of the serials management process. The Library Director and the Collection Development Librarian were asked to define expectations for the serials collections. Technical service librarians explored how serials and orders, payments, usage and descriptive metadata are managed in the ILS, other systems and between the library and serials agents. These existing functions and inputs were mapped against the desired goals and outcomes. Inevitably, there will be gaps between the current state of things and the desired goals. The next task was to designs and oversee implementation of new functions across the various units.

Requirements Analysis identifies the *processes, roles, skills and infrastructure* needed

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